



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.                                                                                                                                           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------|-----------------------|------------------|
| 09/805,362                                                                                                                                                | 03/14/2001  | Chan-Kyu Koo         | Q62783                | 6724             |
| <div>7590      09/20/2007</div> <div>SUGHRUE, MION, ZINN, MACPEAK &amp; SEAS, PLLC<br/>2100 Pennsylvania Avenue, N.W.<br/>Washington, DC 20037-3202</div> |             |                      |                       |                  |
|                                                                                                                                                           |             |                      | EXAMINER              |                  |
|                                                                                                                                                           |             |                      | SWEARINGEN, JEFFREY R |                  |
|                                                                                                                                                           |             |                      | ART UNIT              | PAPER NUMBER     |
|                                                                                                                                                           |             |                      | 2145                  |                  |
|                                                                                                                                                           |             |                      | MAIL DATE             | DELIVERY MODE    |
|                                                                                                                                                           |             |                      | 09/20/2007            | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/805,362

Applicant(s)

KOO, CHAN-KYU

Examiner

Jeffrey R. Swearingen

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Response to Arguments***

1. Applicant's arguments filed 8/20/2007 have been fully considered but they are not persuasive.
2. Applicant amends to assign ports and redirect packets according to IP and port information. TCP/IP requires port information. For example, SMTP has a port of 25, and HTTP has a port of 80. The use of TCP/IP in Curry implies the use of port information. When a terminal is using a specific application such as HTTP, that port and the IP information route the packet to the terminal and the appropriate application operating on the terminal.
3. Curry, column 10, line 36 taught the use of the TCP/IP protocol. In Stevens' fundamental textbook on this topic, TCP/IP Illustrated, Volume 1, pages 225-26, a diagram of the TCP header within the IP datagram is shown in Figure 17.1. Figure 17.2 showed the TCP header located in the IP datagram in detail. Note the use of both a 16-bit source port number and a 16-bit destination port number. Also on page 226:

Each TCP segment contains the source and destination *port number* to identify the sending and receiving application. These two values, along with the source and destination IP addresses in the IP header, uniquely identify each *connection*. [Emphases in original]

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-24, 26, 27, 29-40, and 42-56 are rejected under 35 U.S.C. 102(e) as being anticipated by Curry et al. (US 6,233,234 B1).
6. In regard to claim 1, Curry disclosed:

Art Unit: 2145

*an IP network; (column 5, line 4)*

*a local IP network; (column 5, lines 5-6)*

*a plurality of terminals connected to the local IP network, for conducting a call over the local IP network; (column 5, lines 24-26)*

*a home gateway connected to the IP network and the local IP network, for interfacing between the IP network and the plurality of terminals, assigning an ID and a port to each terminal to differentiate terminals sharing one IP address in processing an incoming call and an outgoing call, and converting IP and port information in a header and payload of a received or transmitted packet according to an assigned ID and port number; (column 6, lines 44-54 – IP and port conversion are inherent to the translation functions performed by the gateway) and*

*a gatekeeper connected to the IP network, for performing registration and call connection admission and managing a state of the IP network. (column 5, lines 30-31)*

7. In regard to claim 2, Curry disclosed:

*the plurality of terminals connected to the local IP network are for conducting voice or video calls over the local IP network. (column 6, lines 55-65)*

8. In regard to claim 3, Curry disclosed:

*a memory for storing the IDs and port numbers to process calls incoming and outgoing from and to the local IP network. (column 5, lines 64-65)*

9. In regard to claims 4 and 5, Curry disclosed:

*the home gateway operates by converting TCP/UDP, IP, and MAC packets in the header and payload in order to connect to the local IP network. (column 6, lines 33-54)*

10. In regard to claims 6 and 29, Curry disclosed:

Art Unit: 2145

*assigning a port to a first terminal when said first terminal requests a call initiation, and storing information of the terminal;* (column 6, lines 45-54)

*converting a transmission packet according to the stored information and transmitting the converted packet;* (column 6, lines 45-54) *and*

*converting a received packet when the packet corresponding to the stored information is received, converting the received packet according to the stored information, and transmitting the converted packet to said first terminal.* (column 6, lines 45-54)

11. In regard to claims 7 and 30, Curry disclosed:

*IP and port information of the terminal is stored in the header and payload of the packet, and changed in the packet conversion.* (column 6, lines 45-54)

12. In regard to claim 8, Curry disclosed:

*discovering a gatekeeper in an IP network connected to the local IP network and registering said first terminal in the gatekeeper, upon request of the call initiation.* (column 5, lines 30-31)

13. In regard to claims 9 and 10, Curry disclosed:

*searching for a gatekeeper using a multicast address by the local IP network upon request of the call initiation;* (column 5, lines 30-31)

*registering said first terminal that requests the call initiation in the gatekeeper according to an IP address assigned to the local IP network and a port number assigned to said first terminal to differentiate said first terminal from the other terminals sharing the IP address, when the gatekeeper responds;*  
(column 5, lines 30-31) *and*

*receiving a registration confirmation from the gatekeeper.* (column 5, lines 30-31)

14. In regard to claim 11, Curry disclosed:

Art Unit: 2145

*requesting the call initiation by said first terminal when the registration is completed; (column 5, lines 30-31) and*

*admitting call connection according to a state of a second terminal. (column 5, lines 30-31)*

15. In regard to claims 12 and 15, Curry disclosed:

*the gatekeeper receives the call initiation request and admits the call connection. (column 11, lines 3-5)*

16. In regard to claims 13 and 31, Curry disclosed:

*requesting call connection by transmitting the IP address and port number of said first terminal to said second terminal when the call connection is admitted. (column 11, lines 3-5)*

17. In regard to claim 14, Curry disclosed:

*requesting a call connection by (sic) said second terminal upon receiving the call request; and transmitting an IP address and a port number of said second terminal to said first terminal when the call connection is admitted. (column 11, lines 3-5)*

18. In regard to claims 16 and 32, Curry disclosed:

*establishing channels for real-time transmission between said first terminal and said second terminal by opening channels according to the exchanged IP and port information and exchanging messages. (column 11, lines 16-60)*

19. In regard to claim 17, Curry disclosed:

*the ID of the terminal is an internal IP address assigned by the local IP network. (inherent to the gateway of column 6)*

20. In regard to claims 19 and 35, Curry disclosed:

*a plurality of terminals connected to the local IP network are differentiated by different TCP and UDP ports. (inherent to the gateway of column 6)*

21. In regard to claims 20 and 36, Curry disclosed:

*TCP is a protocol for searching the gatekeeper, registering the terminals in the gatekeeper, gaining admission to call connection from the gatekeeper for said first terminal, transmitting the IP and port information of said first terminal to said second terminal, gaining admission to call connection from the gatekeeper for said second terminal, transmitting the IP and port information of said second terminal to said first terminal, and establishing the real-time transmission channels.*

22. In regard to claims 21 and 37, Curry disclosed:

*transmitted and received packets are converted using an IP address assigned to the local IP network and an internal IP address and port number of said first terminal.*

23. In regard to claims 22 and 38, Curry disclosed:

*the local IP network includes a plurality of terminals, including said first terminal, each of said plurality of terminals having respective IP information and port information associated therewith, wherein said IP information and said port information are used for packet conversion, and wherein a memory map for storing said IP information is constructed, said memory map indicating at least one of said plurality of terminals corresponding to a respective IP address, a respective internal IP address for allowing a local network to identify each terminal, and a respective port number.*

24. In regard to claims 23 and 39, Curry disclosed:

*said memory map is constructed as a table.*

25. In regard to claims 24 and 40, Curry disclosed:

*one of the respective IP addresses is shared by more than one of said plurality of terminals.*

Art Unit: 2145

26. In regard to claims 26 and 42, Curry disclosed:

*each of the respective internal IP addresses is between the range of 10.0.0.0 to 10.0.255.255.*

(This is the default range of Class A IP addresses, which is inherently present in any IP network)

27. In regard to claims 27 and 43, Curry disclosed:

*in the step of storing information of the terminal, the stored information includes port information, and the port information is registered in a gatekeeper and updated by the gatekeeper when the port information is changed. (column 5, lines 30-31)*

28. In regard to claim 33, Curry disclosed:

*conducting a voice call or a video call on UDP channels when the real-time transmission channels are established. (Voice calls must be made on UDP due to transmission requirements)*

29. In regard to claim 34, Curry disclosed:

*a plurality of terminals connected to the local IP network are differentiated by internal IP addresses assigned to the terminals. (inherent to the gateway of column 6)*

30. In regard to claim 44, Curry disclosed:

*determining whether a packet is assigned to the local IP network by a home gateway of the local IP network, upon receipt of the packet from an IP network; (column 14, lines 36-67)*

*determining whether the packet is for a telephone call if the packet is assigned to the local IP network; (column 14, lines 36-67)*

*converting the header and payload of the packet according to IP and port information preset for the telephone call, if the packet is for the telephone call, and transmitting the converted packet to a terminal connected to the local IP network; (column 14, lines 36-67)*



Art Unit: 2145

*determining whether the packet is for Internet communication if the packet is not for the telephone call; (column 14, lines 36-67) and*

*converting the packet according to IP and port information preset for the Internet communication if the packet is for the Internet communication and transmitting the converted packet to the terminal connected to the local IP network. (column 14, lines 36-67)*

31. In regard to claims 45 and 50, Curry disclosed:

*the port information indicate a port assigned for the Internet communication and a port assigned to the terminal for the telephone call in order to differentiate the terminal from the other terminals sharing the same IP address. (column 14, lines 36-67)*

32. In regard to claims 46, 47, 51 and 52, Curry disclosed:

*the ports are TCP and UDP ports. (inherent to the gateway of column 6)*

33. In regard to claim 48, Curry disclosed:

*determining whether a packet is for a telephone call by a home gateway of the local IP network, upon receipt of the packet from a terminal connected to the local IP network; (column 14, lines 36-67)*

*converting the header and payload of the packet, if the packet is for the telephone call, and transmitting the converted packet to an IP network; (column 14, lines 36-67)*

*determining whether the packet is for a first Internet communication if the packet is not for the telephone call; (column 14, lines 36-67)*

*converting the packet and transmitting the converted packet to the IP network; (column 14, lines 36-67) and*

*registering an IP address and a port number of the packet for a second Internet communication if the packet is neither for the telephone call nor for the first Internet communication. (column 14, lines 36-67)*

Art Unit: 2145

34. In regard to claim 49, Curry disclosed:

*if the packet is for the telephone call, the header and payload of the packet are converted according to IP and port information preset for the telephone call, and if the packet is for the first Internet communication, the packet is converted according to IP and port information preset for the first Internet communication.* (column 14, lines 36-67)

35. In regard to claim 53, Curry disclosed:

*the port is assigned to said first terminal only when said first terminal requests a call initiation.*  
(column 14, lines 36-67)

36. In regard to claim 54, Curry disclosed:

*the home gateway uses a network address port table (NAPT) for an internet connection, and a forwarding table for a call connection.* (column 14, lines 36-67)

37. In regard to claim 55, Curry disclosed:

*the NAPT temporarily exists in accordance with an internet connection.* (column 8, lines 40-50)

38. In regard to claim 56, Curry disclosed:

*the NAPT and the forwarding table include said IP and port information, wherein said IP and port information in said NAPT are deleted if the internet connection is released, and wherein said IP and port information in said forwarding table is preserved.* (column 8, lines 40-50)

**Allowable Subject Matter**

39. Claims 25 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Harkins et al. 5,689,642

Aldred et al. 5,719,942

Tai et al. 5,841,976

Ludwig et al. 5,854,893

Stevens, W. Richard. TCP/IP Illustrated, Volume 1. 17.3 TCP Header. Pp. 225-26. Addison-Wesley, 1994.

41. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

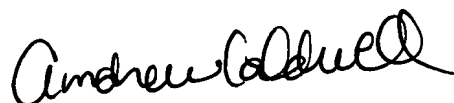
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2145

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason Cardone  
Supervisory Patent Examiner  
Art Unit 2145

A handwritten signature in black ink, appearing to read "Andrew Caldwell", with a stylized flourish at the end.

ANDREW CALDWELL  
SUPERVISORY PATENT EXAMINER